

Date: Tuesday, 11/29/2005 6:49:28 PM
 User: Linda Lacelle

Process Sheet

Split-2 2-06-01-19

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: MID TUBE ASSEMBLY
Job Number	: 25036		
Estimate Number	: 10469	Part Number	: D3391023
P.O. Number	: N/A	Drawing Number	: D3391 REV C
This Issue	: 11/29/2005 S.O. No. : N/A	Project Number	: N/A
Prsht Rev.	: NC	Drawing Revision	: C
First Issue	: N/A	Material	: N/A
Previous Run	:	Due Date	: 12/20/2005
Written By	: SEE COMMENT BELOW	Qty:	5 Um: Each
Checked & Approved By	: SEE COMMENT BELOW		
Comment	: Created By Auto Work Order <u>Rev A. New Issue, EC</u>		
Additional Product			

Job Number:



Seq. #:

Machine Or Operation:

Description:

1.0

D25001100

Skidtube Extrusion



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)
 SKIDTUBE EXTRUSION

Pick:

Qty	Part Number	Description
1	D2500-1-100	Extrusion

Batch

B24593

DP06-1-13

(5)

Tools:

2.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Cut tube to finish length as per Dwg D3391

DP06-1-13 (5)

2-Identify as D3391-023

DP06-1-13 (5)

3-Drill pilot holes using DT8796 as per Dwg D3391

DP06-1-13 (5)

4-Open float bag holes to Ø0.250" as per Dwg D3391 using DT8796D visual aid Jig

DP06-1-13 (5)

5-C'sink float bag holes as per Dwg D3391

DP06-1-13 (5)

6-Open remaining holes to Ø0.438" as per Dwg D3391

DP06-1-13 (5)

7-Remove indexing ridge on aft end of skidtube as per Dwg D3391

DP06-1-18 (2)

8-Deburr

9-Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.208" holes with paint marker

DP06-1-18 (2)

10-Open wearplate holes of D3391-023 assembly detail section G-G to Ø0.208" (14 holes) as per Dwg

DP06-1-18 (2)

D3391

11-Open wearplate holes of D3391-023 assembly detail section H-H to Ø0.250"

and c'sink (20 holes)

DP06-1-18 (2)

as per Dwg D3391

12-Deburr and blow out all chips from inside tube

DP06-1-18 (2)

Tools:

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Drawing Name: MID TUBE ASSEMBLY

Job Number: 25036

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

3.0

QC5

INSPECT WORK TO CURRENT STEP



06-01-18

Comment: INSPECT WORK TO CURRENT STEP

Tools:

4.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

FC 06 01 19

Tools:

5.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



06-01-19

Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

Tools:

6.0

D33891

Web



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

WEB

Pick:

Qty

Part Number

Description

Batch

1

D3389-1

Web

Sikaflex-241/-291

B25059
M19134
06-20-05

A/R

Sikaflex expire date:

Start: 06-1-18 Time: 8PM

Finish: 06-1-19 Time: 8AM

DP06-1-18

(2)

Tools:

7.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Bond web in place as per Dwg D3391 & QSI 015.

Adhere for 12 hours)

DP06-1-18

Tools:

8.0

NAS1330C3KB116

Insert



Comment: Qty.: 20.0000 Each(s)/Unit Total: 100.0000 Each(s)

Insert

Pick:

Qty

Part Number

Description

Batch

M 19014

FC 06 01 19

Form: rprocess

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 25036

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

20

NAS1330C3KB116

Insert

m19014

FC 06 01 25

Tools:

9.0

NAS1330C3KB166

Rivnut



Comment: Qty.: 10.0000 Each(s)/Unit Total: 50.0000 Each(s)

Rivnut

Pick:

Qty Part Number

Description

Batch

10

NAS1330C3KB166

Insert

m19354

FC 06 01 25

Tools:

10.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1
Install inserts as per Dwg D3391

FC 06 01 25

Tools:

11.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

m 06 01 25

Tools:

12.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

Use paint screws to mask inserts.

FC 06 01 19

Tools:

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

m 06 01 25

Tools:

14.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

CY 06/02/03 (2)

Tools:

2

ata: Tuesday, 11/29/2005 6:49:29 PM
ser: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 25036

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

15.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL
Inspection Level 21

Tools:

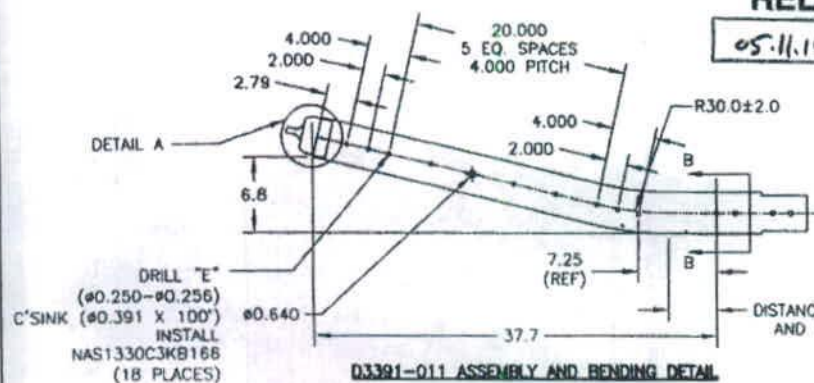
SUR 06/02/07 (2)

PT 06/02/07

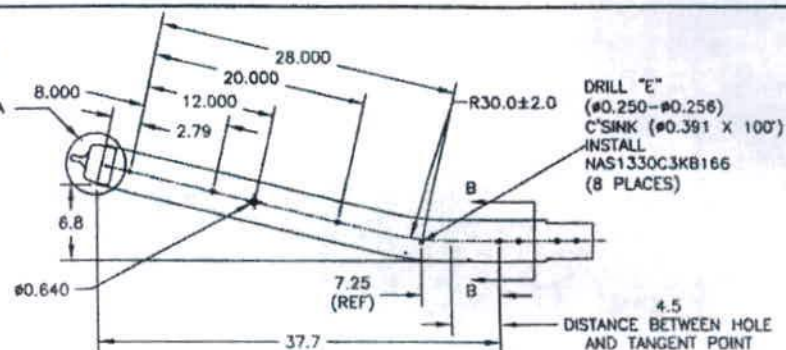
Job Completion



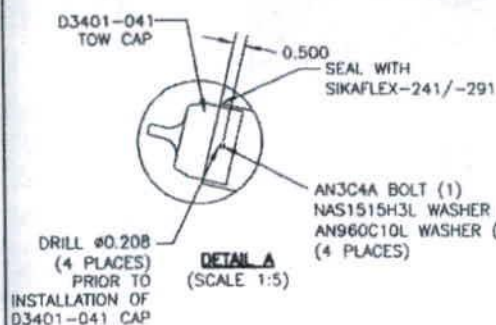
05.11.14



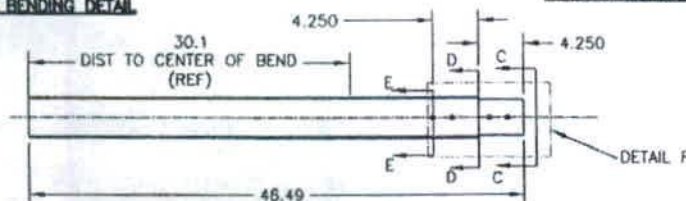
D3391-011 ASSEMBLY AND BENDING DETAIL



03391-021 ASSEMBLY AND BENDING DETAIL



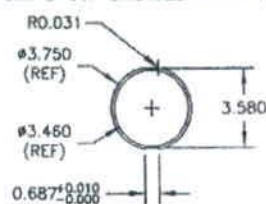
DETAIL A
(SCALE 1:5)



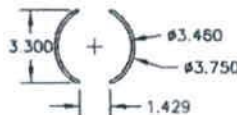
D3391-1 DRILLING AND CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



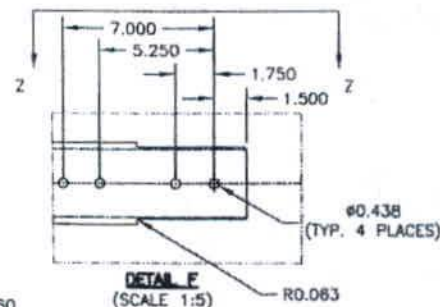
SECTION E-E
(SCALE 1:5)



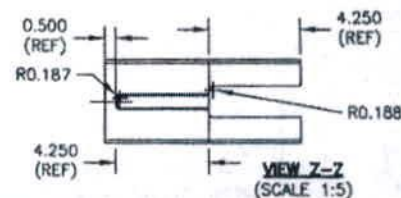
SECTION D-D
(SCALE 1:5)



SECTION C-C
(SCALE 1:5)



DETAIL
(SCALE 1:5)



VIEW Z-Z
(SCALE 1:5)

D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
4	4	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
4	4	AN960C10L	WASHER
24	14	NAS1330C3KB166	INSERT

 DRILL "E"
 (Ø0.250-Ø0.256)
 C'SINK (Ø0.391 X 100")
 INSTALL
 NAS1330C3KB166
 (6 PLACES)

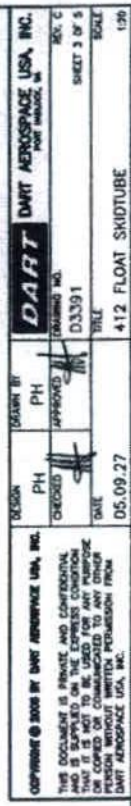
SECTION B-B
(SCALE 1:5)

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DART AEROSPACE USA, INC.

DESIGN	PH	DRAWN BY	PH
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>
DATE	05.09.27		

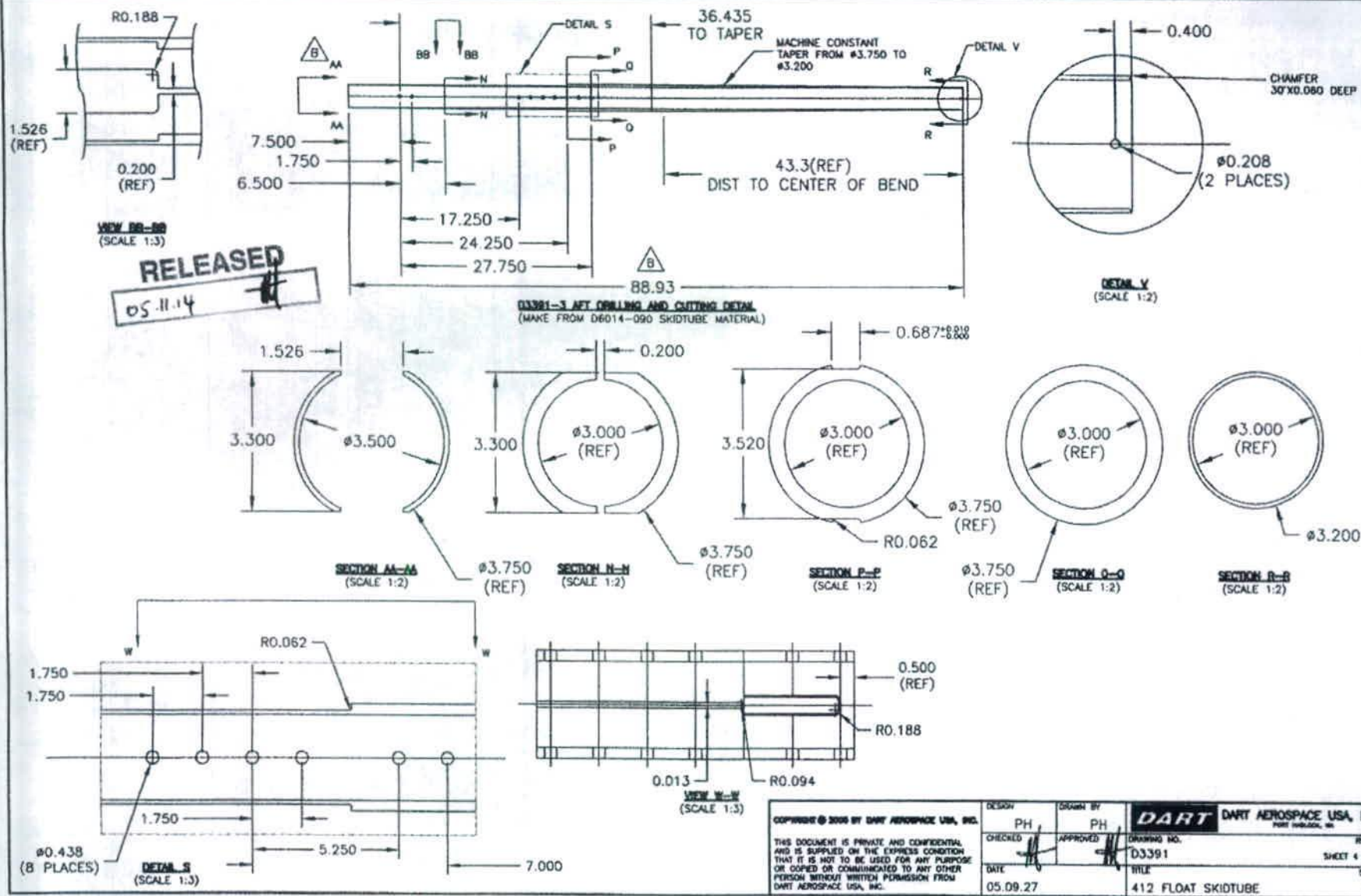
DART		DART AEROSPACE USA, INC. PORT HURON, MI	
DRAWING NO. D3391		REV. C SHEET 3 OF 3	
TITLE 412 FLOAT SKIDSTURE		SCALE 1/4" = 1'-0"	

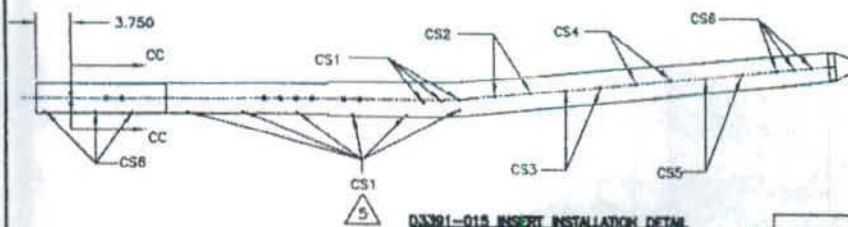
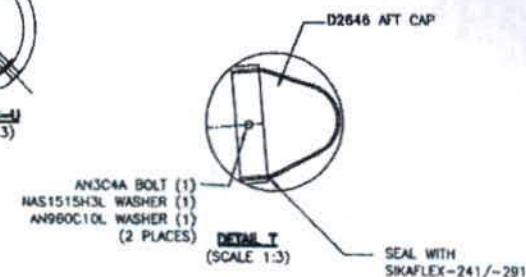
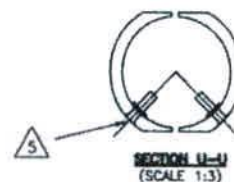
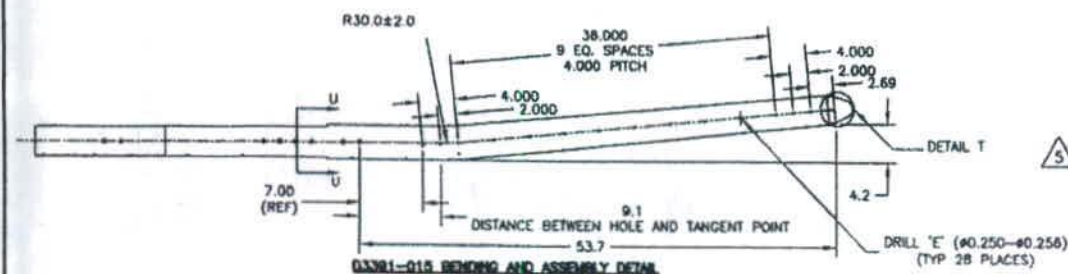
05.11.14



QTY - 012	QTY - 022	PART NUMBER	DESCRIPTION
X	X	D3391-013	MID TUNE ASSEMBLY
		D3391-023	MID TUNE ASSEMBLY
1	1	D2550-1-100	EXTRUSION
1	1	D3388-1	WEB
24	20	NAS1330C-3K-B116	INSERT
24	10	NAS1330C-3K-B160	INSERT
4	4	NAS1330C-4K-B140	WASHER
4	4	NAS1515H-32	WASHER
4	4	AN9500-10L	WASHER
4	4	NAS1515H-44	WASHER
4	4	AN960C-4 10L	WASHER
4	4	M527039C1-09	SCREW
4	4	M527039C4-08	SCREW

D3380-013/-073 MID TUBE ASSEMBLY
MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
INSTALL D3380-1 WEB TO OUTER TUBE USING SWAFLEX-241/-201 PER OSI 015





C'SINK AND INSTALL AESS10KBXXX AND/OR NAS1330C3KBXXX IN HOLES MARKED CS1-CS8 AS FOLLOWS

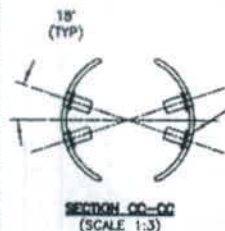
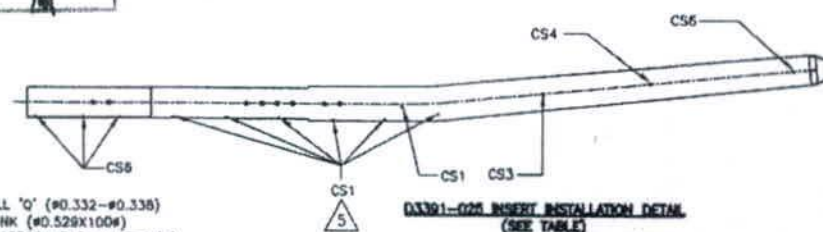
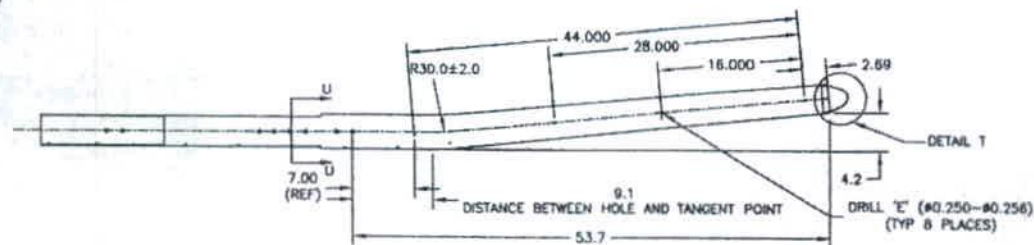
HOLES MARKED	QTY D3391-015	QTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	AESS10KB386
CS2	4		Ø0.391	AESS10KB366
CS3	4	2	Ø0.391	NAS1330C3KB316
CS4	4	2	Ø0.391	NAS1330C3KB266
CS5	4		Ø0.391	NAS1330C3KB216
CS6	12	8	Ø0.391	NAS1330C3KB166

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2648	AFT CAP
18	14	AESS10KB386	INSERT
4	2	NAS1330C3KB316	INSERT
4	2	NAS1330C3KB266	INSERT
4		NAS1330C3KB216	INSERT
12	8	NAS1330C3KB166	INSERT
4		NAS1330C4KB151	INSERT
2	2	AN3C4A	BOLT
2	2	NAS1515H3L	WASHER
2	2	AN980C10L	WASHER

RELEASED

05.11.14



DRILL 'Q' (#0.332-#0.338)
C'SINK (#0.529X100#)
NAS1330C4KB151 INSERT (1)
(4 PLACES)

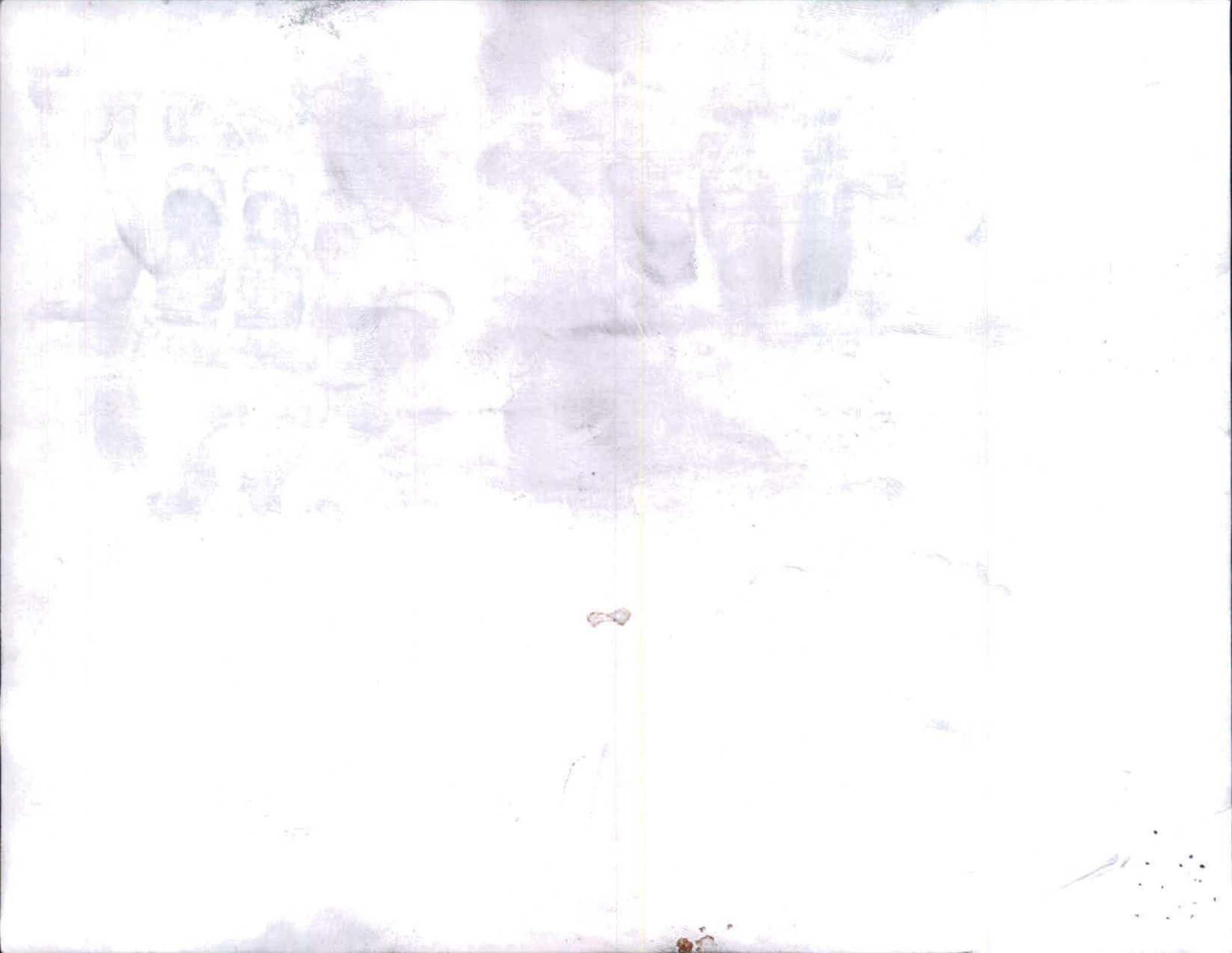
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DESIGN PH
CHECKED PH
DATE 05.09.27

QUANT BY PH
APPROVED PH
DRAWING NO. D3391
TITLE 412 FLOAT SKIDTUBE
REV. C
SHEET 5 OF 5
SCALE 1:12

DART AEROSPACE USA, INC.
PORT HADLOCK, OH



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
06-01-19	6	Web wasn't installed centered in the mid-tube, by .100 towards the aft end. S. Kniflex dry, so can't move the web	<i>[Signature]</i>	Scrap mid tube, And replace. Discuss with engineering to have .257 locating hole in 2 places through the web to ensure part is centered.	<i>[Signature]</i> 06-1-20	<i>[Signature]</i> 06-01-20	<i>[Signature]</i>	<i>[Signature]</i> 06-01-19
06-01-20	6	Web off by .027 towards aft end off center. can't move web.	<i>[Signature]</i>	Charge unit 1 to P601-536 Scrap mid tube And replace, charge scrap to P601-536	<i>[Signature]</i> 06-1-20	<i>[Signature]</i> 06-01-20	<i>[Signature]</i>	<i>[Signature]</i> 06-01-20

NOTE: Date & initial all entries

10000

Peter Hum

From: David Shepherd [davids@dartaero.com]
Sent: Wednesday, November 02, 2005 6:44 PM
To: Peter Hum
Cc: Jean-Luc Menard
Subject: Re: D412-742-013

I don't have a problem with opening these holes up to 0.230, but the tighter the better.
Why don't they drill the holes off the same tool?

David

----- Original Message -----

From: "Peter Hum" <phum@dartaero.com>
To: "David Shepherd (E-mail)" <davids@dartaero.com>
Cc: "Jean-Luc Menard (E-mail)" <jeanlucm@dartaero.com>
Sent: Wednesday, November 02, 2005 7:43 AM
Subject: D412-742-013

> David,
>
> Production is about to drill the holes for the wearplates in the mid tube.
> The wearplate holes that align with the fwd and aft extensions are of a
> concern for production. Currently these holes are (0.208 in diameter).
The
> concern is that these holes in the mid tube are being drilled
independently
> from the fwd/aft extensions and that there might be alignment problems in
> the final assembly of the fwd/mid/aft tubes.
>
> If required, would it be acceptable to open these holes to perhaps 0.230
in
> diameter to allow for fit? I was thinking we would write a work order
> non-conformance on the back of the w/o.
>
> This might not be required but were trying to prepare for it if this
happens
> b/c of the time crunch.
>
> Please contact Jean-Luc, or myself if you have more questions.
>
> thank you
>
> Peter Hum
> Mechanical Designer
>
> DART Aerospace Ltd.
> Email...phum@dartaero.com
> Phone...613-632-3336
> Fax.....613-632-4443
>
>

